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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,270	11/08/2001	Gregory S. Hageman	020618-000120US	3566

20350 7590 08/23/2006

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SAN FRANCISCO, CA 94111-3834

EXAMINER	
SEHARASEYON, JEGATHEESAN	

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/007,270	HAGEMAN ET AL.	
	Examiner	Art Unit	
	Jegatheesan Seharaseyon, Ph.D	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,10,11,21-25 and 27-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2,3,27 and 28* is/are allowed.

6)☐ Claim(s) *1, 4, 5,10,11,21-25 and 29-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Appendix A1-2, B and C1-2*.

DETAILED ACTION

1. This office action is in response to the amendment and remarks filed on 6/7/06. Claims 29-31 have been amended. Claim 26 is canceled. Therefore, claims 1-5, 10-11, 21-25 and 27-31 are currently pending and are examined.

2. The text of those sections of Title 35, U. S. Code not included in this action can be found in a prior Office action.

3. Any objection or rejection of record, which is not expressly repeated in this action, has been overcome by Applicant's response and withdrawn.

4. The Office is withdrawing the allowance of claims 5, 10 and 11 due to the new grounds of rejections applied below.

Claim Objections

5.Claims 27 and 28 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 24 and 25. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claims 24 and 27 are both drawn to a polynucleotide segment of SEQ ID NO: 1 that is at least 1000 nucleotides in length. Similarly, Claims 25 and 28 are both drawn to a polynucleotide segment of SEQ ID NO: 1 that is at least 2000 nucleotides in length.

Claim Rejections - 35 USC § 112, first paragraph (maintained)

6. The rejection of claim 4 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for nucleotides encoding a polypeptide of SEQ ID

NO: 2, does not reasonably provide enablement for a complement encoding a polypeptide comprising at least 190 contiguous amino acids residues of SEQ ID NO: 2 is maintained for reasons set forth in the Office Action dated 1/31/06 (pages 6-11) and below. Wand's factors were discussed in the previous Office Action dated 1/13/06. Applicant in the response filed 6/7/06 has not indicated how complement will encode the polypeptide of SEQ ID NO: 2. As indicated previously there is a single polynucleotide disclosed with reference to IPM150 isoform A, SEQ ID NO: 2. There is no enabling disclosure to support a complementary sequence to encode a polypeptide of SEQ ID NO: 2. Despite knowledge in the art for producing a polypeptide the specification fails to provide any guidance regarding its complementary nucleotide sequences to encode polypeptide of SEQ ID NO: 2. Thus, undue amount of experimentation would be required to generate the polypeptide of SEQ ID NO: 2 using the complementary sequences. Claims 5, 10, 11 and 21-22 are rejected insofar as they depend from claim 4.

7. The rejection of claim 4 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention is maintained for reasons set forth in the Office Action dated 1/31/06 (pages 3-6) and below. Applicant in the response filed 6/7/06 has not indicated how complement will encode the polypeptide of SEQ ID NO: 2. The specification discloses the nucleotides of SEQ ID NO: 1 and nucleotides encoding SEQ ID NO: 2 (Page 10, paragraph 47). This meets the written

description provisions of 35 USC 112, first paragraph. However, the specification does not disclose a complementary sequence that encodes a polypeptide comprising at least 190 amino acid residues of SEQ ID NO: 2 contemplated by the Applicant. The claims as written, however, encompass sequences which were not originally contemplated and fail to meet the written description provision of 35 USC 112, first paragraph because the written description is not commensurate in scope with the recitation of claim 4. The specification does not provide written description to support the genus encompassed by the instant claim. As a result, it does not appear that the inventors were in possession of complementary polynucleotide sequence set forth in claim 4. Therefore, only isolated polynucleotide encoding SEQ ID NO: 2 but not the full breadth of the claim meets the written description provision of 35 USC 112, first paragraph. Claims 5, 10, 11 and 21-22 are rejected insofar as they depend from claim 4.

Claim Rejections - 35 USC § 112(New)

8. Claims 1, 4, 5, 10, 11 and 21-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8a. Claim 1 is rejected as being indefinite because the claim recites "wherein said nucleic acid segment is 100 to 3330 nucleotides in length and has sequence identity to SEQ ID NO: 1". The Office is assuming that the nucleotide fragment contemplated could have any percentage identity to SEQ ID NO: 1, the claim is considered indefinite. Applicant can obviate the rejection by amending the claim to

recite "wherein said nucleic acid segment is 100 to 3330 contiguous nucleotides of SEQ ID NO: 1". Claims 23-25 are rejected insofar as they depend from claim 1.

Claim Rejections - 35 USC § 102(New)

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9a. Claims 1 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Macke et al. (1996, Accession No.W26960).

Macke et al. (1996, Accession No.W26960) discloses a 561bp cDNA fragment (EST) from human retinal library. Claim 1 is drawn to polynucleotide comprising a nucleic acid segment or its complement that is 100 to 3330 nucleotides long that has identity to SEQ ID NO: 1. In addition, claims 29-31 are drawn to polynucleotide primers or probes comprising a nucleotide sequence that is identical to or complementary to SEQ ID NO: 1 and between 12 and 100 contiguous nucleotides in length. As can been seen in Appendix A, the EST fragment disclosed by Macke et al. contains at least

300bp that are identical to SEQ ID NO: 1. Therefore, claims 1 and 29-31 are anticipated by Macke et al. (1996, Accession No.W26960).

9b. Claims 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Flor et al. (U. S. Patent No. 6, 228, 610).

Flor et al. discloses SEQ ID NO: 5 which has a 20bp fragment that is identical to 20 nucleotides of SEQ ID NO: 1 of the instant invention (see Appendix B). This 20mer sequence can be used as a primer or a probe. Therefore, claims 29-31 are anticipated by Flor et al. (U. S. Patent No. 6, 228, 610).

9c. Claims 1, 23 and 29-31 are rejected under 35 U.S.C. 102(a) as being anticipated by Felbor et al. (1998, Reference C10 on PTO1449 0f 2/05/2004, also Accession No. AF017776.1).

Felbor et al. (1998, Accession No.AF017776.1) discloses a 1235 bp cDNA fragment of human interphotoreceptor matrix gene (IPM150), exon 17. There is identity to about 700 nucleotides and appears not to be non-coding. . Claim 1 is drawn to polynucleotide comprising a nucleic acid segment or its complement that is 100 to 3330 nucleotides long that is identical to SEQ ID NO: 1. Further, claim 23, is drawn to polynucleotide comprising a nucleic acid segment that is at least 500 nucleotides long and that is identical to SEQ IDNO: 1. In addition, claims 29-31 are drawn to polynucleotide primers or probes comprising a nucleotide sequence that is identical to or complementary to SEQ ID NO: 1 and is between 12 and 100 contiguous nucleotides. As can been seen in Appendix C1-2 the cDNA fragment disclosed by Felbhor et al.

contains at least 1235bp that identical to SEQ ID NO: 1. Therefore, claims 1 and 23, 29-31 are anticipated Felbor et al. (1998, Reference C10 on PTO1449 0f 2/05/2004, also Accession No.AF017776.1).

Conclusion

10. Claims 2, 3, 27 and 28 are allowable.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jegatheesan Seharaseyon, Ph.D whose telephone number is 571-272-0892. The examiner can normally be reached on M-F: 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback can be reached on 571-272-0961. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS
Art Unit 1647,
August 10, 2006

Patent Examiner.

Appendix A1

Applicant's copy


```
Qy       1742 GACACCTAGATGAAATGGATCTGTCTGACACTCCTGCCCCATCTGAGGTACCAGAGCTCA 1801
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 GACACCTAGATGAAATGGATCTGTCTGACACTCCTGCCCCATCTGAGGTACCAGAGCTCA 360

Qy       1802 GCGAATATGTTTCTGTCCCAGATCATTTCTTGGAGGATACCACTCCTGTCTCAGCTTTAC 1861
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 TCGAATATGTTTCTGTCCCAGATCATTTCTTGGAGGATACCACTCCTGTCTCAGCTTTAC 420

Qy       1862 AGTATATCACCACTAGTTCTATGACCATTGCCCCCAAGGGCCGAGAGCTGGTAGTGTTCT 1921
             |||||||||||||||||||||||||||||| |||||||||| |||||||| |||||
Db        421 AGTATATCACCACTAGTTCTATGACCATTGCCCACAAGGGCCGATAGCTGGTAAAGTTCT 480

Qy       1922 TCAGTCTGCGTGTTGCTAACATGGCCTT 1949
             |||||||||||| ||||||||||||||||
Db        481 TCAGTCTGCGTGATGCTAACATGGCCTT 508


RESULT 14
BX097138
LOCUS       BX097138               472 bp    mRNA    linear   EST 04-FEB-2003
DEFINITION  BX097138 Soares retina N2b4HR Homo sapiens cDNA clone
            IMAGp998N11359 ; IMAGE:190666, mRNA sequence.
ACCESSION   BX097138
VERSION     BX097138.1  GI:27843098
KEYWORDS    EST.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 472)
  AUTHORS   Ebert,L., Heil,O., Hennig,S., Neubert,P., Partsch,E., Peters,M.,
            Radelof,U., Schneider,D. and Korn,B.
  TITLE     Human UnigeneSet - RZPD3
  JOURNAL   Unpublished (2003)
COMMENT     Contact: Ina Rolfs
            RZPD Deutsches Ressourcenzentrum fuer Genomforschung GmbH
            Im Neuenheimer Feld 580, D-69120 Heidelberg, Germany
            RZPD; IMAGp998N11359.
            RZPDLIB; I.M.A.G.E. cDNA Clone Collection;
            Human UnigeneSet - RZPD3 (RZPDLIB No.972)
            http://www.rzpd.de/CloneCards/cgi-
            bin/showLib.pl.cgi/response?libNo=972 Contact: Ina Rolfs
            RZPD Deutsches Ressourcenzentrum fuer Genomforschung GmbH
            Heubnerweg 6, D-14059 Berlin, Germany
            Tel: +49 30 32639 101
            Fax: +49 30 32639 111
            www.rzpd.de
            This clone is available royalty-free from RZPD;
            contact RZPD (clone@rzpd.de) for further information. Seq primer:
            M13r, Primer sequence: TTTCACACAGGAAACAGCTATGAC.
FEATURES             Location/Qualifiers
     source          1. .472
                     /organism="Homo sapiens"
                     /mol_type="mRNA"
                     /db_xref="taxon:9606"
                     /clone="IMAGp998N11359 ; IMAGE:190666"
                     /sex="male"
                     /tissue_type="retina"
                     /dev_stage="55 year old"
                     /lab_host="DH10B (ampicillin resistant)"
                     /clone_lib="Soares retina N2b4HR"
                     /note="Organ: eye; Vector: pT7T3D (Pharmacia) with a
                     modified polylinker; Site_1: Not I; Site_2: Eco RI; 1st
                     strand cDNA was primed with a Not I - oligo(dT) primer [5'
                     TGTTACCAATCTGAAGTGGGAGCGGCCGCGCTTTTTTTTTTTTTTTT 3'],
                     double-stranded cDNA was size selected, ligated to Eco RI
                     adapters (Pharmacia), digested with Not I and cloned into
                     the Not I and Eco RI sites of a modified pT7T3 vector
                     (Pharmacia). The retinas were obtained from a 55 year old
                     Caucasian and total cellular poly(A)+ RNA was extracted 6
                     hrs after their removal. The retina RNA was kindly
                     provided by Roderick R. McInnes M.D. Ph.D. from the
                     University of Toronto. Library constructed by Bento
                     Soares and M.Fatima Bonaldo. "
ORIGIN

  Query Match          14.2%;  Score 472;  DB 13;  Length 472;
  Best Local Similarity  100.0%;  Pred. No. 2.9e-94;
  Matches  472;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1307 GGACAATTCAGTTCACTGATGAAATTGCTGGATCACTGCCAGCCTTTGGTCCTGACACCC 1366
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GGACAATTCAGTTCACTGATGAAATTGCTGGATCACTGCCAGCCTTTGGTCCTGACACCC 60

Qy       1367 AATCAGAGCTGCCCACATCTTTTGCTGTTATAACAGAGGATGCTACTTTGAGTCCAGAAC 1426
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 AATCAGAGCTGCCCACATCTTTTGCTGTTATAACAGAGGATGCTACTTTGAGTCCAGAAC 120

Qy       1427 TTCCTCCTGTTGAACCCCAGCTTGAGACAGTGGACGGAGCAGAGCATGGTCTACCTGACA 1486
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 TTCCTCCTGTTGAACCCCAGCTTGAGACAGTGGACGGAGCAGAGCATGGTCTACCTGACA 180

Qy       1487 CTTCTTGGTCTCCACCTGCTATGGCCTCTACCTCCCTGTCAGAAGCTCCACCTTTCTTTA 1546
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CTTCTTGGTCTCCACCTGCTATGGCCTCTACCTCCCTGTCAGAAGCTCCACCTTTCTTTA 240

Qy       1547 TGGCATCAAGCATCTTCTCTCTGACTGATCAAGGCACCACAGATACAATGGCCACTGACC 1606
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 TGGCATCAAGCATCTTCTCTCTGACTGATCAAGGCACCACAGATACAATGGCCACTGACC 300

Qy       1607 AGACAATGCTAGTACCAGGGCTCACCATCCCCACCAGTGATTATTCTGCAATCAGCCAAC 1666
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Qy       1667 TGGCTCTGGGAATTTCACATCCACCTGCATCTTCAGATGACAGCCGATCAAGTGCAGGTG 1726
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 TGGCTCTGGGAATTTCACATCCACCTGCATCTTCAGATGACAGCCGATCAAGTGCAGGTG 420

Qy       1727 GCGAAGATATGGTCAGACACCTAGATGAAATGGATCTGTCTGACACTCCTGC 1778
             |||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 GCGAAGATATGGTCAGACACCTAGATGAAATGGATCTGTCTGACACTCCTGC 472


RESULT 15
W26960/c
LOCUS       W26960                 561 bp    mRNA    linear   EST 08-MAY-1996
DEFINITION  16h10 Human retina cDNA randomly primed sublibrary Homo sapiens
            cDNA, mRNA sequence.
ACCESSION   W26960
VERSION     W26960.1  GI:1306188
KEYWORDS    EST.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 561)
  AUTHORS   Macke, J., Smallwood, P. and Nathans, J.
  TITLE     Adult Human Retina cDNA
  JOURNAL   Unpublished (1996)
COMMENT     Contact: Dr. Jeremy Nathans
            Dr. Jeremy Nathans, Dept. of Molecular Biology and Genetics
            Johns Hopkins School of Medicine
            725 North Wolfe Street, Baltimore, MD 21205
            Tel: 410 955 4678
            Fax: 410 614 0827
            Email: jeremy_nathans@qmail.bs.jhu.edu
            Clones from this library are NOT available.
            PCR PRimers
            FORWARD: CTTTTGAGCAAGTTCAGCCTGGTTAAGT
            BACKWARD: GAGGTGGCTTATGAGTATTTCTTCCAGGGTAA
            Seq primer: GGGTAAAAAGCAAAAGAATT.
FEATURES             Location/Qualifiers
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                     /organism="Homo sapiens"
                     /mol_type="mRNA"
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Appendix A2 Applicants Copy

/db_xref="taxon:9606"
/sex="mixed (males and females)"
/tissue_type="retina"
/dev_stage="adult"
/lab_host="E. coli strain K802"
/clone_lib="Human retina cDNA randomly primed sublibrary"
/note="Organ: eye; Vector: lambda gt10; Site_1: EcoRI;
Site_2: EcoRI; The library used for sequencing was a
sublibrary derived from a human retina cDNA library.
Inserts from retina cDNA library DNA were isolated,
randomly primed, PCR amplified, size-selected, and cloned
into lambda gt10. Individual plaques were arrayed and
used as templates for PCR amplification, and these PCR
products were used for sequencing."

ORIGIN

Query Match 13.8%; Score 459.6; DB 14; Length 561;
Best Local Similarity 93.4%; Pred. No. 1.7e-91;
Matches 493; Conservative 0; Mismatches 33; Indels 2; Gaps 2;

```
Qy      1223 AGCAACCAGAAATCTATCTCACAGCTACAGACCTCAAAAGGCTGATCAGCAAAGCACTAG 1282
             | | | |   ||||||   || | | | || |||| | |||||||||| | |||||||||
Db       532 ANCCAACTTGAATCTACNCCAGANCNAAAG-CCTCCANAGGCTGATCANCNAAGCACTAG 474

Qy      1283 AGGAAGAACAATCTTTGGATGTGGGGACAATTCAGTTCACTGATGAAATTGCTGGATCAC 1342
             ||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       473 GGGAAGACCAATCTTTGGATGTGGGGACAATTCAGTTCACTGATGAAATTGCTGGATCAC 414

Qy      1343 TGCCAGCCTTTGGTCCTGACACCCAATCAGAGCTGCCCACATCTTTTGCTGTTATAACAG 1402
             |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Db       413 TGCCAGCCTTTGGTCCTGACACCCAATCAGANCTGCCCACATCTTTTGCTGTTATAACAG 354

Qy      1403 AGGATGCTACTTTGAGTCCAGAACTTCCTCCTGTTGAACCCCAGCTTGAGACAGTGGACG 1462
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       353 AGGATGCTACTTTGAGTCCAGAACTTCCTCCTGTTGAACCCCAGCTTGAGACAGTGGACG 294

Qy      1463 GAGCAGAGCATGGTCTACCTGACACTTCTTGGTCTCCACCTGCTATGGCCTCTACCTCCC 1522
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       293 GAGCAGAGCATGGTCTACCTGACACTTCTTGGTCTCCACCTGCTATGGCCTCTACCTCCC 234

Qy      1523 TGTCAGAAGCTCCACCTTTCTTTATGGCATCAAGCATCTTCTCTCTGACTGATCAAGGCA 1582
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       233 TGTCAGAAGCTCCACCTTTCTTTATGGCATCAAGCATCTTCTCTCTGACTGATCAAGGCA 174

Qy      1583 CCACAGATACAATGGCCACTGACCAGACAATGCTAGTACCAGGGCTCACCATCCCCACCA 1642
             ||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       173 CCACAGANACAATGGCCACTGACCAGACAATGCTAGTACCAGGGCTCACCATCCCCACCA 114

Qy      1643 GTGATTATTCTGCAATCAGCCAACTGGCTCTGGGAATTTCACATCCACCTGCATCTTCAG 1702
             |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db       113 GTGATTATTCTNCAATCAGCCAACTGGCTCTGGGAATTTCACATCCACCTGCATCTTCAG 54

Qy      1703 ATGACAGCCGATCAAGTG-CAGGTGGCGAAGATATGGTCAGACACCTA 1749
             ||||||| |||||||||  |||||||||| | ||||  | | |  |
Db         53 ATGACAGNCGATCAAGTGAGAGGTGGCGAATAAATGGCGNGNCCCANA 6
```

Search completed: March 1, 2004, 20:29:00
Job time : 8160 secs

Appendix B Applicants copy


```
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 161496
;   LENGTH: 601
;   TYPE: DNA
;   ORGANISM: Human
US-09-949-016-161496

  Query Match              0.6%;  Score 20;  DB 3;  Length 601;
  Best Local Similarity   100.0%;  Pred. No. 30;
  Matches   20;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         36 AATATATAATTATTTTTCAC 55
              ||||||||||||||||||||
Db        138 AATATATAATTATTTTTCAC 157


RESULT 9
US-08-617-785-5
; Sequence 5, Application US/08617785E
; Patent No. 6228610
; GENERAL INFORMATION:
;  APPLICANT: Flor, Peter J.
;  APPLICANT: Kuhn, Ranier
;  APPLICANT: Lindaur, Kristen
;  APPLICANT: Puttner, Irene
;  APPLICANT: Knopfel, Thomas
;  TITLE OF INVENTION: Human Metabotropic Glutamate Receptor Subtypes (HMR4,
;  TITLE OF INVENTION: HMR6, HMR7) and Related DNA Compounds
;  FILE REFERENCE: 4-19679/A/PCT
;  CURRENT APPLICATION NUMBER: US/08/617,785E
;  CURRENT FILING DATE: 1996-03-19
;  EARLIER APPLICATION NUMBER: PCT/EP94/02991
;  EARLIER FILING DATE: 1994-09-07
;  EARLIER APPLICATION NUMBER: EPO 9416553.7
;  EARLIER FILING DATE: 1994-08-19
;  EARLIER APPLICATION NUMBER: EPO 93810663.0
;  EARLIER FILING DATE: 1993-09-20
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 5
;   LENGTH: 1399
;   TYPE: DNA
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: CDS
;   LOCATION: (1)..(270)
;   FEATURE:
;   NAME/KEY: unsure
;   LOCATION: (920)..(1090)
;   OTHER INFORMATION: Nucleotides designated as n could be a or g or c
;   OTHER INFORMATION: or t/u
US-08-617-785-5

  Query Match              0.6%;  Score 20;  DB 3;  Length 1399;
  Best Local Similarity   100.0%;  Pred. No. 30;
  Matches   20;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1201 CATGGAACCATGGAGGAGGA 1220
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Db        283 CATGGAACCATGGAGGAGGA 302


RESULT 10
US-09-817-464-5
; Sequence 5, Application US/09817464
; Patent No. 6515107
; GENERAL INFORMATION:
;  APPLICANT: Flor, Peter J.
;  APPLICANT: Kuhn, Ranier
;  APPLICANT: Lindaur, Kristen
;  APPLICANT: Puttner, Irene
;  APPLICANT: Knopfel, Thomas
;  TITLE OF INVENTION: Human Metabotropic Glutamate Receptor Subtypes (HMR4,
;  TITLE OF INVENTION: HMR6, HMR7) and Related DNA Compounds
;  FILE REFERENCE: 4-19679/A/PCT
;  CURRENT APPLICATION NUMBER: US/09/817,464
;  CURRENT FILING DATE: 2001-03-26
;  EARLIER APPLICATION NUMBER: US/08/617,785
;  EARLIER FILING DATE: 1996-03-19
;  EARLIER APPLICATION NUMBER: EPO 9416553.7
;  EARLIER FILING DATE: 1994-08-19
;  EARLIER APPLICATION NUMBER: EPO 93810663.0
;  EARLIER FILING DATE: 1993-09-20
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 5
;   LENGTH: 1399
;   TYPE: DNA
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: CDS
;   LOCATION: (1)..(270)
;   FEATURE:
;   NAME/KEY: unsure
;   LOCATION: (920)..(1090)
;   OTHER INFORMATION: Nucleotides designated as n could be a or g or c
;   OTHER INFORMATION: or t/u
US-09-817-464-5

  Query Match              0.6%;  Score 20;  DB 3;  Length 1399;
  Best Local Similarity   100.0%;  Pred. No. 30;
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Qy       1201 CATGGAACCATGGAGGAGGA 1220
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Db        283 CATGGAACCATGGAGGAGGA 302


RESULT 11
US-07-977-434-11/c
; Sequence 11, Application US/07977434
; Patent No. 5466591
;  GENERAL INFORMATION:
;    APPLICANT:  Gelfand, David H.
;    APPLICANT:  Abramson, Richard D.
;    TITLE OF INVENTION:  5' TO 3' EXONUCLEASE MUTATIONS OF
;    TITLE OF INVENTION:  THERMOSTABLE DNA POLYMERASES
;    NUMBER OF SEQUENCES:  38
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      ZIP:  07110-1199
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  7
;      SOFTWARE:  WordPerfect 2.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/977,434
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 590,490
;      FILING DATE:  28-SEP-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 590,466
;      FILING DATE:  28-SEP-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 590,213
;      FILING DATE:  28-SEP-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 523,394
;      FILING DATE:  15-MAY-1990
;    PRIOR APPLICATION DATA:
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Db      40323 TATGCTCCACACTACGTCTGATAAACACAAACCTCAGTATTCAGTTATTAGGCACACTAG 40382

Qy       3137 TTTTATACGCAACTACTGCTTACATAGTAGACTGTTTTGTTGCCAATAATCTTTGAATTG 3196
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Qy       3197 TTCTTTAAAAGAAACTGAGGTTCAGATACACATACCATGGAAAAATCTTACTTTTCTTGT 3256
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Qy       3317 ATGACATAATCAAT 3330
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RESULT 10
HSIMPG17
LOCUS       HSIMPG17                1235 bp    DNA     linear   PRI 28-OCT-1998
DEFINITION  Homo sapiens interphotoreceptor matrix gene (IPM150), exon 17 and
            complete cds.
ACCESSION   AF017776
VERSION     AF017776.1  GI:3800731
KEYWORDS    .
SEGMENT     17 of 17
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
            Hominidae; Homo.
REFERENCE   1  (bases 1 to 1235)
  AUTHORS   Felbor,U., Gehrig,A., Sauer,C.G., Marquardt,A., Kohler,M.,
            Schmid,M. and Weber,B.H.
  TITLE     Genomic organization and chromosomal localization of the
            interphotoreceptor matrix proteoglycan-1 (IMPG1) gene: a candidate
            for 6q-linked retinopathies
  JOURNAL   Cytogenet. Cell Genet. 81 (1), 12-17 (1998)
  PUBMED    9691169
REFERENCE   2  (bases 1 to 1235)
  AUTHORS   Gehrig,A., Felbor,U., Kelsell,R., Hunt,D.M., Maumenee-Hussels,I.E.
            and Weber,B.H.F.
  TITLE     Assessment of a novel interphotoreceptor matrix gene (IPM150)
            localized to 6q14.2-q15 in autosomal dominant Stargardt-like
            macular dystrophy, progressive bifocal chorioretinal atrophy
            (PBCRA), and North Carolina macular dystrophy (MCDR1)
  JOURNAL   Unpublished
REFERENCE   3  (bases 1 to 1235)
  AUTHORS   Felbor,U., Kuehn,M., Hageman,G.S. and Weber,B.H.F.
  TITLE     Direct Submission
  JOURNAL   Submitted (09-AUG-1997) Humangenetik, Universitaet Wuerzburg, Am
            Hubland, Wuerzburg D-97074, Germany
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                     AF017765.1:1. .311,AF017766.1:1. .377,AF017767.1:1. .300,
                     AF017768.1:1. .294,AF017769.1:1. .444,AF017770.1:1. .347,
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                     AF017768.1:153. .173,AF017769.1:92. .339,
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Appendix C2 Applicant's Copy


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ORIGIN

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  Matches  836;  Conservative    0;  Mismatches   18;  Indels    1;  Gaps    1;

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Qy       2657 GACAGGCATATTCATGGGTCATCAAAATCCAGACATACAGTCAACACTGAGAATCAGCAC 2716
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Qy       3016 GATGCAGGTCTCTCTAAACGCATGAATGTATGTAGTGTGTAGGCACTGTAGTGAGTGTAT 3075
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Db        921 GATGCAGGTCTCTCTAAACGCATGAATGTATGTAGTGTGTAGGCACTGTAGTGAGTGTAT 980

Qy       3076 ATATGCTCCACACTACGTCTGATAAACACAAACCTCAGTATTCAGTTATTAGGCACACTA 3135
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Db        1101 GTTCTTTAAAAGAAACTGAGGTTCAGATACACATACCATGGAAAAATCTTACTTTTCTTG 1160

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Db        1161 TTACTACACAAAGCTATTTTAAAGAAGATGCTATGTTGGGAGAAGGGCGAAGTTGTACTA 1220

Qy       3316 TATGACATAATCAAT 3330
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Db        1221 TATGACATAATCAAT 1235


RESULT 11
HSIMPG13
LOCUS       HSIMPG13                816 bp    DNA     linear   PRI 28-OCT-1998
DEFINITION  Homo sapiens interphotoreceptor matrix gene (IPM150), exon 13.
ACCESSION   AF017772
VERSION     AF017772.1  GI:3800727
KEYWORDS    .
SEGMENT     13 of 17
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
            Hominidae; Homo.
REFERENCE   1  (bases 1 to 816)
  AUTHORS   Pelbor,U., Gehrig,A., Sauer,C.G., Marquardt,A., Kohler,M.,
            Schmid,M. and Weber,B.H.
  TITLE     Genomic organization and chromosomal localization of the
            interphotoreceptor matrix proteoglycan-1 (IMPG1) gene: a candidate
            for 6q-linked retinopathies
  JOURNAL   Cytogenet. Cell Genet. 81 (1), 12-17 (1998)
   PUBMED   9691169
REFERENCE   2  (bases 1 to 816)
  AUTHORS   Gehrig,A., Pelbor,U., Kelsell,R., Hunt,D.M., Maumenee-Hussels,I.E.
            and Weber,B.H.F.
  TITLE     Assessment of a novel interphotoreceptor matrix gene (IPM150)
            localized to 6q14.2-q15 in autosomal dominant Stargardt-like
            macular dystrophy, progressive bifocal chorioretinal atrophy
            (PBCRA), and North Carolina macular dystrophy (MCDR1)
  JOURNAL   Unpublished
REFERENCE   3  (bases 1 to 816)
  AUTHORS   Pelbor,U., Kuehn,M., Hageman,G.S. and Weber,B.H.F.
  TITLE     Direct Submission
  JOURNAL   Submitted (09-AUG-1997) Humangenetik, Universitaet Wuerzburg, Am
            Hubland, Wuerzburg D-97074, Germany
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ORIGIN

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  Matches  537;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

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